

CLAIMS

What is claimed is:

1. A recording and/or reproducing apparatus for use with an information storage medium having a lead-in area, a user data area, and a lead-out area, the apparatus comprising:

an optical pickup to transfer data with respect to the information storage medium; and

a controller which controls the optical pickup to detect compatibility information about whether the information storage medium is compatible with a drive which uses a first version of standards older than a second version of the information storage medium and which is recorded in at least one of the lead-in and lead-out areas, and to control the optical pickup to transfer the data with respect to the information storage medium according to one of the first and second versions detected from the compatibility information which corresponds to a version of the recording and/or reproducing apparatus.

2. The apparatus of claim 1, wherein, the information storage medium stores information about an optimal writing pattern used by the drive in recording the information so that the information storage medium is operable in the drive following the first version of standards.

3. The apparatus of claim 1, wherein the information storage medium further stores strategy information about which one of a multi-pulse write strategy and a single-pulse write strategy is used to record data.

4. The apparatus of claim 1, wherein at least one of the lead-in and lead-out areas includes a reproduction-only area, and the compatibility information is recorded in the reproduction-only area.

5. The apparatus of claim 4, wherein the reproduction-only area is a disk control data zone which stores disk-related information used by the controller to control the information storage medium.

6. The apparatus of claim 4, wherein the controller reproduces the compatibility information as one of a sum signal and a differential signal.

7. The apparatus of claim 1, wherein at least one of the lead-in and lead-out areas includes a recordable area, and the compatibility information is recorded in the recordable area.

8. The apparatus of claim 7, wherein the controller reproduces the compatibility information as a sum signal.

9. The apparatus of claim 2, wherein information about the optimal writing pattern is recorded in one of the same byte as the byte in which the compatibility information is recorded and a byte different from the byte in which the compatibility information is recorded.

10. The apparatus of claim 9, wherein, when the information about the optimal write pattern and the compatibility information are recorded in the same byte, the optimal write pattern and the compatibility information are recorded in a specified byte of the lead-in area.

11. The apparatus of claim 1, wherein:

when 00000000b is recorded in a specified byte, the information storage medium uses an n version of a standard and is not compatible with a drive following a version of the standard older than n,

when 00000001b is recorded in the specified byte, the information storage medium uses the n version of the standard and is compatible with a drive following a version of the standard older than the n version and the optimal writing pattern is a first writing pattern type,

when 00000010b is recorded in the specified byte, the information storage medium uses the n version of the standard and is compatible with a drive following a version of the standard older than n and the optimal writing pattern is a second writing pattern type, and

when 00000011b is recorded in the specified byte, the information storage medium uses the n version of the standard and is compatible with a drive following a version of the standard older than n and the optimal writing pattern is a third writing pattern type.

12. The apparatus of claim 1, wherein the lead-in area includes:

- a disk control data zone which stores disk-related information;
- a disk test zone which stores information used to test an information storage medium;
- a drive text zone which stores information used to test a drive;
- a defect management zone which stores information used by the controller to remove a defect generated on the information storage medium; and
- a reserved area.

13. The apparatus of claim 12, wherein the lead-in area further includes first and second buffer zones.

14. The apparatus of claim 13, wherein the lead-in area is divided into a reproduction-only area and a recordable area.

15. The apparatus of claim 14, wherein the first buffer zone and the disk control data zone are included in the reproduction-only area.

16. The apparatus of claim 15, wherein the disk test zone, the drive test zone, the defect management zone, the reserved zone, and the second buffer zone are included in the recordable area.

17. The apparatus of claim 12, wherein the information about writing patterns used by the controller includes at least one of a recording speed, a reproduction power, an initial pulse time (T_{top}) of a recording pattern, a multi-pulse time (T_{mp}) of a recording pattern, a cooling pulse time of a recording pattern, a writing power (P_w), an erasing power (P_e), and a bias power (P_b).

18. A recording and/or reproducing apparatus for use with an information storage medium having a lead-in area, a user data area, and a lead-out area, the apparatus comprising:

- an optical pickup to transfer data with respect to the information storage medium; and
- a controller which controls the optical pickup to detect strategy information recorded in at least one of the lead-in and lead-out areas information storage medium that differentiates between and indicates which one of a multi-pulse write strategy and a single-pulse write strategy is used to record the data, and to control the optical pickup to transfer the data with respect to the information storage medium according to the detected strategy information.

19. The apparatus of claim 18, wherein at least one of the lead-in and lead-out areas includes a reproduction-only area, and the strategy information is recorded in the reproduction-only area.

20. The apparatus of claim 19, wherein the reproduction-only area is a disk control data zone which stores disk-related information used by the controller to control the information storage medium.

21. The apparatus of claim of claim 19, wherein the controller reproduces the strategy information as one of a sum signal and a differential signal.

22. The apparatus of claim 18, wherein at least one of the lead-in and lead-out areas includes a recordable area, and the strategy information is recorded in the recordable area.

23. The apparatus of claim 22, wherein the strategy information is reproduced as a sum signal.

24. A recording and/or reproducing apparatus for use with an information storage medium having a lead-in area, a user data area, and a lead-out area, the apparatus comprising:
an optical pickup to transfer data with respect to the information storage medium; and
a controller which controls the optical pickup to detect strategy information recorded in at least one of the lead-in and lead-out areas information storage medium about an optimal writing pattern, and to control the optical pickup to transfer the data with respect to the information storage medium according to the detected strategy information.

25. The apparatus of claim 24, wherein at least one of the lead-in and lead-out areas includes a reproduction-only area, and the information about the optimal writing pattern is recorded in the reproduction-only area.

26. The apparatus of claim 25, wherein the reproduction-only area is a disk control data zone included in the lead-in area to store disk-related information.

27. The apparatus of claim 25, wherein the controller reproduces the information about the optimal writing pattern as one of a sum signal and a differential signal.

28. The apparatus of claim 21, wherein at least one of the lead-in and lead-out areas includes a recordable area, and the information about the optimal writing pattern is recorded in the recordable area.

29. The apparatus of claim 28, wherein the lead-in area includes a recordable reserved area, and the information about the optimal writing pattern is recorded in the recordable reserved area.

30. The apparatus of claim 28, wherein the controller reproduces the information about the optimal writing pattern as a sum signal.

31. The apparatus of claim 24, wherein the information about the optimal writing pattern is recorded as a combination of bits.

32. The apparatus of claim 24, wherein the information about the optimal writing pattern is recorded together with information about a recording speed of the information storage medium.